



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,229	12/15/2003	Steven M. Ayer	200314067-1	6374
22879 7590 08/23/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER NATNITHITHADHA, NAVIN	
			ART UNIT 3735	PAPER NUMBER
			MAIL DATE 08/23/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/737,229

Applicant(s)

AYER ET AL.

Examiner

Navin Natnithithadha

Art Unit

3735

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. Claims 1 and 11 have been amended. Claims 1-20 are pending.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

3. Claim 1 is objected to because of the following informalities:

It is not clear as to whether the "object" is different than the "apparatus" or the "ingestible object." The specification appears to indicate that the "object," "ingestible object," and "apparatus" are the same, which are represented by numeral "1."

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claim 1, it is not clear as to whether the sensing device is part of the claimed invention because Applicant did not positively recite a “sensing device” as part of the “apparatus for detecting ingestion of an object.” Based on the language of claim 1, it is not clear as to whether the sensing device is coupled to the identification circuit within the ingested object/apparatus or external to the ingested object/apparatus (and possibly external to a person). Claims 2-10 are rejected because of their dependency directly or indirectly to claim 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-7 and 11-17 are rejected under 35 U.S.C. 102(e) as anticipated by D'Andrea et al, US 2003/0191430 A1 (“D'Andrea”), or, in the alternative, under 35 U.S.C. 103(a) as obvious over D'Andrea in view of Miyawaki et al, US 5,697,384 A (“Miyawaki”).

Claim 1: D'Andrea teaches an apparatus/object/ingestible object (“capsule”) 20/41 for detecting ingestion of the apparatus/object/ingestible object 20/41 (see figs. 1 and 3), comprising: an identification circuit (“transmitter”) 23/45 coupled to the ingestible object 20/41, the identification circuit 23/45 upon ingestion of the ingestible object 20/41 enabling electromagnetic coupling (via RF signal communication) to a sensing device (“receiving circuitry for the capsule,” see fig. 5 and para. [0040] and [0047]) such that an electromagnetic field produced by the sensing device (“receiving circuitry”) is altered by

the identification circuit 23/45 to indicate ingestion (indicating “real-time location of the capsule in a mammalian body or tract,” see para. [0048]-[0050]) of the apparatus/object/ingestible object 20/41 (“a receiving antenna 48 that is arranged to receive an RF or acoustic signal broadcast from outside the body,” see para. [0045]).

Alternatively to D’Andrea’s electromagnetic coupling via RF communication as a means for communicating information, Miyawaki teaches a communication procedure for an ingestible object (“capsule”) 1 comprising: an identification circuit (“integrated circuit”) 3 enabling electromagnetic coupling to a sensing device (“reader”) 40 such that an electromagnetic field (electromagnetic waves produce magnetic flux A”) produced by the sensing device 40 is altered by the identification circuit 3 to indicate ingestion of the ingestible object (see col. 5, ll. 11-23). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify D’Andrea’s communication technique with Miyawaki’s communication technique because Miyawaki’s communication technique has a design incentive of “minimize[ing] power consumption to control the apparatus [10]” (see Miyawaki, col. 4, ll. 20-22).

Claims 2 and 3: D’Andrea teaches the ingestion is human ingestion and is performed in medicinal purposes (see para. [0018] and [0026]).

Claims 4-7: D’Andrea teaches the electromagnetic coupling is radio frequency electromagnetic coupling (see para. [0029]), and the electromagnetic coupling of the identification circuit is different for at least two different locations of the ingestible object (“stomach into the small intestine,” see para. [0050]); wherein one of the at least two different locations is inside a container (“reproductive tract,” “respiratory tract,” or

Art Unit: 3735

“auditory tract,” see para. [0048]) and another of the at least two different locations is in an ingestion system (“gastrointestinal tract,” see para. [0048]); wherein an electromagnetic parameter (“RF signal”) of the identification circuit during the ingestion is altered to alter the electromagnetic coupling (see para. [0048]).

Claim 11: D’Andrea teaches a method of detecting ingestion of an object 20/41 (determining “real-time location of the capsule in a mammalian body or tract,” see para. [0048]-[0050]), comprising coupling an identification circuit 23/45 to an ingestible object 20/41 (see figs. 1 and 3), the identification circuit 23/45 upon ingestion of the ingestible object 20/41 enabling electromagnetic coupling to a sensing device (“receiving circuitry for the capsule,” see fig. 5 and para. [0040] and [0047]) such that an electromagnetic field produced by the sensing device is altered by the identification circuit 23/45 to indicate ingestion of the ingestible object 20/41.

Claims 12 and 13: D’Andrea teaches the ingestion is human ingestion and is performed in medicinal purposes (see para. [0018] and [0026]).

Claims 14-17: D’Andrea teaches the electromagnetic coupling is radio frequency electromagnetic coupling (see para. [0029]), and the electromagnetic coupling of the identification circuit is different for at least two different locations of the ingestible object (“stomach into the small intestine,” see para. [0050]); wherein one of the at least two different locations is inside a container (“reproductive tract,” “respiratory tract,” or “auditory tract,” see para. [0048]) and another of the at least two different locations is in an ingestion system (“gastrointestinal tract,” see para. [0048]); wherein an

electromagnetic parameter ("RF signal") of the identification circuit during the ingestion is altered to alter the electromagnetic coupling (see para. [0048]).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 7-11, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nair et al, US 2002/0132226 A1 ("Nair"), in view of Miyawaki.

Claims 1 and 7-10: Nair teaches an apparatus/object/ingestible object ("ingestible capsule") 10 for detecting ingestion of the apparatus/object/ingestible object 10 (see figs. 1 and 2), comprising: an identification circuit ("electronic device," which is interrelated with the sensor membrane 12, see para. [0018]) 14 coupled to the

ingestible object 20, the identification circuit 14 upon ingestion of the ingestible object 20 enabling electromagnetic coupling (via RF signal communication, see para. [0018]) to a sensing device ("receiver") 22; wherein the identification circuit 14 comprises two layers ("dissolvable membrane" and "sensor membrane") 11 and 12, at least one of the layers 11 being altered during the ingestion (see para. [0018]), wherein a layer 11 is opaque to electromagnetic signals within a wavelength band and is dissolved during the ingestion (see para. [0019]), and wherein at least one part 11 of the identification circuit 14 is dissolved during the ingestion (see para. [0017]).

Nair does not teach "an electromagnetic field produced by the sensing device is altered by the identification circuit" (claim 1), or "wherein an electromagnetic parameter of the identification circuit during the ingestion is altered to alter the electromagnetic coupling" (claim 7). However, Miyawaki teaches a communication procedure for an ingestible object ("capsule") 1 comprising: an identification circuit ("integrated circuit") 3 enabling electromagnetic coupling to a sensing device ("reader") 40 such that an electromagnetic field or electromagnetic parameter (electromagnetic waves produce magnetic flux A") produced by the sensing device 40 is altered by the identification circuit 3 to indicate ingestion of the ingestible object (see col. 5, ll. 11-23). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nair's communication technique with Miyawaki's communication technique because Miyawaki's communication technique has a design incentive of "minimize[ing] power consumption to control the apparatus [10]" (see Miyawaki, col. 4, ll. 20-22).



Claims 11 and 17-20: Nair teaches a method of detecting ingestion of an object (“ingestible capsule”) 10, comprising coupling an identification circuit ( “electronic device,” which is interrelated with the sensor membrane 12, see para. [0018]) 14 to an ingestible object 10 (see figs. 1 and 2), the identification circuit 14 upon ingestion of the ingestible object 10 enabling electromagnetic coupling to a sensing device (“receiver”) 22; wherein the identification circuit comprises two layers (“dissolvable membrane” and “sensor membrane”) 11 and 12, at least one of the layers 11 being altered during the ingestion (see para. [0018]); wherein a layer is opaque to electromagnetic signals within a wavelength band and is dissolved during the ingestion (see para. [0019]); and wherein at least one part 11 of the identification circuit 14 is dissolved during the ingestion (see para. [0017]).

Nair does not teach “an electromagnetic field produced by the sensing device is altered by the identification circuit” (claim 11), or “wherein an electromagnetic parameter of the identification circuit during the ingestion is altered to alter the electromagnetic coupling” (claim 17). However, Miyawaki teaches a communication procedure for an ingestible object (“capsule”) 1 comprising: an identification circuit (“integrated circuit”) 3 enabling electromagnetic coupling to a sensing device (“reader”) 40 such that an electromagnetic field or electromagnetic parameter (electromagnetic waves produce magnetic flux A”) produced by the sensing device 40 is altered by the identification circuit 3 to indicate ingestion of the ingestible object (see col. 5, ll. 11-23). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nair’s communication technique with Miyawaki’s communication technique

because Miyawaki's communication technique has a design incentive of "minimize[ing] power consumption to control the apparatus [10]" (see Miyawaki, col. 4, ll. 20-22).

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Navin Natnithithadha whose telephone number is (571) 272-4732. The examiner can normally be reached on Monday-Friday, 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II, can be reached on (571) 272-4730. The fax phone

Art Unit: 3735

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Navin Natnithithadha  
Patent Examiner  
Art Unit 3735  
08/10/2007